

WHAT IS CLAIMED IS:

5 1. A substrate testing apparatus comprising:  
a first rail;  
a second rail that crosses said first rail; and  
a probe unit disposed to cover an intersection of said first and second  
rails and being respectively movable along said first and second rails,  
wherein said probe unit comprises a probing needle that is brought  
into contact with a surface of a substrate subjected to measurement.

Sub 1007-53-111601  
2. A substrate testing apparatus comprising:  
a first rail group made of a plurality of rails disposed in parallel with  
each other;  
5 a second rail group made of a plurality of rails disposed in parallel  
with each other in a direction that crosses said first rail group;  
a plurality of probe units disposed to cover respective intersections of  
the rails included in said first rail group and the rails included in said  
second rail group and being movable along the rails included in said first  
rail group and said second rail group; and  
10 corresponding interval maintaining means for keeping each rail  
included in said first rail group at an interval corresponding to an  
arrangement of locations to be measured on a substrate subjected to  
measurement,  
15 wherein said plurality of probe units each comprise a probing needle  
to be brought into contact with a surface of said substrate.

3. The substrate testing apparatus according to claim 2, wherein  
said corresponding interval maintaining means maintains the interval  
after changing the interval every time the arrangement of the locations to  
be measured changes.

4. The substrate testing apparatus according to claim 2, wherein  
said corresponding interval maintaining means comprises equal interval

maintaining means for keeping each rail included in said first rail group at an equal interval.

5. The substrate testing apparatus according to claim 4, further comprising:

displacement measuring means for measuring a displacement of one or more observation points on the substrate subjected to measurement; and

5 displacement measurement value feedback means for setting the interval of each rail included in said first rail group, as defined by said equal interval maintaining means, in accordance with a displacement measurement value given by said displacement measuring means.

6. The substrate testing apparatus according to claim 4, further comprising:

temperature measuring means for measuring a temperature; and

5 temperature measurement value feedback means for setting the interval of each rail included in said first rail group, as defined by said equal interval maintaining means, in accordance with a temperature measurement value given by said temperature measuring means.

7. A substrate testing method using a plurality of probe units disposed to cover respective intersections of rails included in a first rail group made of a plurality of rails disposed in parallel with each other and rails included in a second rail group made of a plurality of rails disposed in parallel with each other in a direction that crosses said first rail group, said plurality of probe units being movable along the rails included in said first rail group and said second rail group and each comprising a probing needle to be brought into contact with a surface of a substrate subjected to measurement, wherein said probing needles are brought into contact with  
10 said substrate in a state in which an arrangement of said plurality of probe units is adjusted so that an interval between said probing needles corresponds to an arrangement of locations to be measured on said substrate.